



# CAMPAIGN TO STOP KILLER ROBOTS

## Recommendations on the Normative and Operational Framework for Autonomous Weapon Systems June 2021

In response to the [letter](#) of 26<sup>th</sup> April 2021 from the Group of Governmental Experts (GGE) Chair, the Campaign to Stop Killer Robots<sup>1</sup> proposes the following recommendations on the normative and operational framework for autonomous weapon systems.

### Summary

States at the Sixth Review Conference should adopt a mandate to negotiate a legally binding instrument regarding systems that use machine analysis of sensor information to automatically select and engage targets, such that a human operator does not determine *specifically where, when or against what* force is applied. Systems that function in this way present moral, ethical, humanitarian, operational and legal challenges and threaten international security and stability.

To respond to these challenges, the Campaign proposes that the new legally binding instrument include:

- A general obligation to maintain meaningful human control over the use of force.
- Prohibitions on certain weapons systems that cannot be meaningfully controlled and on systems that would target human beings.
- Positive obligations to ensure that meaningful human control is maintained over systems that are not prohibited.

### 1. Characterising autonomous weapons systems

The Campaign is concerned with the risks of enabling weapon systems to automatically apply force based on machine analysis of sensor information. The normative and operational framework should address weapons systems that **automatically select and engage targets based on the processing of sensor information** whereby a human operator does not determine *specifically where, when or against what* force is applied.

### 2. Ethical, moral, operational and legal concerns

The diversity of concerns about the development and use of autonomous weapons systems are well documented by the International Committee of the Red Cross (ICRC) and others.<sup>2</sup> Autonomous weapons systems pose a range of ethical, moral and operational concerns in addition to issues of compliance with international human rights law (IHRL) and the international humanitarian law principles (IHL) of distinction, proportionality, precaution and the prohibition of indiscriminate attacks.

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<sup>1</sup> The [Campaign to Stop Killer Robots](#) is a coalition of 180 non governmental organisations across 68 countries

<sup>2</sup> See [Limits on Autonomy in Weapons Systems: Identifying Practical Elements of Human Control](#), ICRC; June 2020, [ICRC's Position on Autonomous Weapon Systems](#), ICRC; May 2021 and [Reviewing the Record: Reports on Killer Robots](#), Human Rights Watch and Harvard Law School

The challenges presented are very serious and have potential to erode our commitment to human dignity, to erode respect for existing legal rules and fundamental rights, to further weaken accountability for harms in conflict and to negatively shape our relationship with automated decision making across all areas of society.

These issues have implications beyond the immediate context of controlling behaviour in conflict. They are of a seriousness that demands a strong normative and operational framework that is legally binding.

### **3. Strengthening the normative and operational framework - a structure for regulation**

Within the broad scope outlined under 1 (above), we propose a **three-part** framework:

- A. General obligation to maintain meaningful human control
- B. Prohibition of certain autonomous weapons systems
- C. Positive obligations to ensure meaningful human control

#### **A. General obligation to maintain meaningful human control**

A general obligation to ensure meaningful human control over the use of force is fundamental to alleviating concerns about weapons systems that use sensors to select and engage targets.

This overarching provision would facilitate compliance with applicable legal and ethical norms by obliging states parties to maintain meaningful human control over the use of force. The generality of the obligation would help avoid loopholes, and the principle it embodies could inform interpretation of the treaty's other provisions.

Support for maintaining meaningful human control has been widespread in multilateral meetings and expert reports. Almost all states that have spoken on the topic have argued that humans need to play a role in the use of force.

#### **B. Prohibitions of certain autonomous weapons systems**

Within the scope of weapons systems that use sensors to automatically select and engage targets, certain systems would be fundamentally unacceptable and must be prohibited. These can be categorised as autonomous weapons systems that (I) target people *or* (II) cannot be used with meaningful human control.

- I. Autonomous weapons systems that target people:** Sensor-based weapons systems that apply force due to the presence or proximity of a person would use proxy indicators (such as weight, heat-signal shape, 'object recognition,' movement or biometrics) as a basis for encoding patterns of sensor data (target profiles) intended to represent humans.

We consider these systems unacceptable because they reduce people to objects, and so are dehumanizing to civilian and military victims alike. Claiming that technology can distinguish between people that can or cannot be legally targeted abandons the case-sensitive human judgement upon which the law is based and would open the door

to biased data sets and prejudicial algorithms. Claiming systems will only be used in areas where there are no civilians, pushes the burden of avoiding harm onto civilian populations and weakens the normative rejection available to us if we act now. Such systems should be **rejected on moral and ethical grounds** and as a matter of **societal precaution**.

- II. **Autonomous weapons systems that cannot be meaningfully controlled:** Certain autonomous weapons systems will *necessarily* be incapable of meaningful control by a human commander and should be subject to prohibition. Examples would include systems where the location and duration of their functioning cannot be **appropriately limited**, and systems where the external conditions and circumstances that will trigger a specific application of force cannot be **appropriately predicted or understood**.

### C. Positive obligations to ensure meaningful human control

Autonomous weapons systems that are not prohibited should be subject to **positive obligations to ensure meaningful human control**. There are systems that use sensors to select and engage targets that we do consider unacceptable per se, but which would pose grave problems if they were to be used without meaningful human control.

'Meaningful human control' should be understood to capture the degree of control required to mitigate operational and ethical hazards and to ensure that IHRL and IHL rules can be substantively applied if systems are used.

Meaningful human control will be context specific, and obligations to ensure that control need to be formulated in broad terms such that they can apply to diverse systems and cater to technological developments in the future. Meaningful human control should ensure the user can effectively direct and predict the effects of an attack, as well as ensure those effects are in line with the user's intent. In this way the user can fulfill their obligations under IHRL and IHL, as well as ensure moral responsibility and accountability. Obligations will need to highlight key components that, taken together, are necessary to ensure human control. They include:

- I. **Decision-making components:** The human operator should have an understanding of how the system functions, an understanding of the operational environment, and sufficient time for deliberation.
- II. **Technological components:** The weapon system's embedded features should enable the operator to enhance meaningful human control, including through ensuring predictability and reliability. Mechanisms for 'human-machine interaction', including where necessary the ability for the operator to intervene, should work to avoid unintended harm.
- III. **Operational components:** The degree of mobility and duration of operation that an autonomous weapons system is capable of will be important factors in determining whether a human operator is able to exercise meaningful human control. The location and duration of a system's operation need to be appropriately limited for an operator to control and predict the effects of the system and to apply existing legal rules. Such limits will also depend on the type of environmental context in which the weapon is operating (e.g. populated areas, at sea, etc) - with some systems likely being inappropriate in certain contexts.

Positive obligations to ensure meaningful human control would prevent more opaque technologies being used over wider areas and longer periods of time. Whilst certain systems should be prohibited, we must prevent a creeping erosion of moral and legal protections over the broad range of autonomous weapons systems.

#### **4. Form of regulation**

The Campaign agrees with the ICRC<sup>3</sup> that existing IHL rules are insufficient to address the concerns raised by autonomous weapon systems, and that a new **legally binding instrument is necessary**.

A legally binding instrument would provide a durable framework offering the benefit of legal certainty and stability for the development and use of autonomous weapon systems now and in the future.

The framework should be structured around the general obligation to maintain meaningful human control, prohibitions and positive obligations outlined above. This framework would need to be augmented with other rules addressing, for example, system development, weapons review processes and training, and national implementation measures.

#### **5. Conclusion**

The need for regulation over autonomous weapon systems is urgent. States must forge a path forward together to safeguard the values and fundamental rights which we collectively stand for and ensure that the technologies that we create are kept within our own control and used for the benefit of humanity.

States should adopt a mandate to urgently negotiate a legally binding instrument, based on the framework detailed above. The forthcoming Sixth Review Conference is the final milestone by which point states must demonstrate that the CCW remains an appropriate forum to achieve regulation for autonomous weapon systems.

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<sup>3</sup> See [ICRC's Position on Autonomous Weapon Systems](#), May 2021, p.14 'In the view of the ICRC, existing IHL rules do not hold all the answers to the humanitarian, legal and ethical questions raised by AWS. New rules are needed to clarify and specify how IHL applies to AWS, as well as to address wider humanitarian risks and fundamental ethical concerns.'